

SCOPING REVIEW: CAN A DURAL PUNCTURE LEAD TO CHRONIC HEADACHES?

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Research/ Education

Aim: Post-dural puncture headache (PDPH) is a well-recognised complication of central neuraxial procedures such as epidural anaesthesia and lumbar punctures and is generally thought to be self-limiting. However a detailed review of the literature challenges this. The aim of this study was to review research describing associations between accidental dural puncture (ADP) and chronic headache (CH), to understand the potential pathophysiology of these CH and to make recommendations about the follow up and treatment of these patients.

Methodology: A narrative review was conducted according to the recommendations of the PRISMA guidelines. An electronic search was conducted on the following databases from the earliest record to April 2022: Pubmed, Embase and Cochrane Central Register of Controlled Trials. A total of 727 abstracts were screened, and 52 full text articles reviewed.

Results: 32 publications were included, 12 cohort studies and 20 case report / case series. No standard definition for CH after dural puncture was found. PDPH is strongly associated with the development of chronic headache, which may be prolonged and extremely debilitating in some cases. The pathophysiology of chronic headache arising from a dural puncture is poorly understood. Non-invasive magnetic resonance imaging (MRI) of the brain and the spine, followed by more invasive investigations (CT myelogram (CTM), digital subtraction myelogram (DSM), radionuclide scan) may be performed to confirm and localize an underlying cerebral spinal fluid (CSF) leak. Epidural blood patch and fibrin glue injection are useful treatments for chronic orthostatic headaches. When a CSF leak, CSF-venous fistula or pseudomeningocele can be identified on imaging, surgical repair may produce good long-term outcomes.

Conclusion: PDPH should no longer be considered a benign and self-limiting condition. Physicians who perform central neuraxial procedures should consider counselling CH as one of the complications. Given the difficulty of treating chronic PDPH, the risk of PDPH should be reduced where possible.